

MANUFACTURING SERVICES

manroland

MANUFACTURING FACILITIES, WORKPIECE DIMENSIONS, AND DETAILS

Technology	Manufacturer	Max. dimensions (L x W x H mm)	Max. weight (kg)	Range of materials	Specifics and notes
Foundry, model, and mold construction					
Model construction	Bohner & Köhle	1,800 x 1,200 x 1,000		Wood, plastic, aluminum	Rapid prototyping with service provider
Manual molding		4,000 x 1,600 x 300/300 3,000 x 2,500 x 460/460	3,500	EN-GJL 200 to 350, EN-GJS 400-15, EN-GJS 600-3, EN-GJS 700-2 and others	Rotationally symmetrical parts for surface treatment
Cold-setting resin molding bay	WÖHR	2,960 x 1,150 x 400/400 and others	3,300		Rotationally symmetrical parts for surface treatment
Vacuum molding	HWS	2,500 x 2,300 x 300/300	2,600	EN-GJL 200 to 350, EN-GJS 400-15, EN-GJS 600-3 and others	Shaping with minimal tapers
Rotative large part-manufacturing					
Heavy drilling	Ravensburg	to ø 930 x 2,500	5,000	Steel (20%), casting (80%)	Measuring equipment for determining the workpiece position
External (noncircular) grinding	Schautd PF61/PF71	to ø 630 x 2,750	1,200/ 3,000	Steel (20%), casting (80%)	„in process“-measurement, contour grinding
External circular grinding	GRS-IV-4000 GÖBEL	to ø 500 x 4,000	2,500		Accuracy of fit IT5
Circular grinding	Gioria SPA R136/3W	ø 980, L 6,000	6,000	Casting (100%)	„in process“-measurement system, automatic wheel changeover with up to three wheels
Turn-milling	WFL Millturn100	to ø 870 x 3,000	3,500	Steel (20%), casting (80%)	Angular drilling heads, contact sensors
Turn-milling	WFL Millturn 65	to ø 600 x 3,000		Steel and casting	Accuracy of fit IT6
Turn-milling	Niles N30/2	to ø 420 x 3,500		Steel and casting	Accuracy of fit IT6
Turn-milling	Niles N32	to ø 500 x 3,000		Steel and casting	Accuracy of fit IT6
Turn-milling	Weingärtner MPMC 600T	ø 600, L 4,700	4,000		
Deep hole drilling	TB4-45-3000	to ø 65 in solid material, drilling out to ø 75, L max. = 2,500		Steel and casting	Accuracy of fit IT7
Dynamic balancing	UHK23	to ø 1,000, L max. = 4,000	1,500		
Dynamic balancing	Dörries Scharmann VCE 2000	ø 1,200, H 1,800	800	Aluminium (90%), casting (10%)	HV head, angular heads, reversible clamping device, shuttle operation

MANUFACTURING FACILITIES, WORKPIECE DIMENSIONS, AND DETAILS

Technology	Manufacturer	Max. dimensions (L x W x H mm)	Max. weight (kg)	Range of materials	Specifics and notes
Prismatic large part manufacturing					
Milling	Waldrich 20-10FPF	2,000 x 2,000 x 600	5,000	Casting (100%)	Tools to ø 500 mm, cutter support to ø 250 mm, pallet changer, magnetic clamping device
Complete machining	Waldrich Coburg WAC 5	7,000/13,000 (1 table/2 tables) x 4,550 x 2,000	20,000		5-side machining center, 2 exchangeable tables, portal machine
Complete machining	Waldrich Coburg MultiTec 3500	5,000/10,000 (1 table/2 tables) x 4,500 x 2,000	20,000		2 exchangeable tables
Complete machining	Soraluce LB-Danobat	8,500 x 1,200 x 1,600	5,000		Universal angle head, shuttle operation
Complete machining	Deckel DMU 200P	1,800 x 1,095 x 2,000	3,000		Mounting during primary processing time
Complete machining	Heller MC650	2,100 x 2,000 x 300	3,000	Casting (100%)	Pallet changer, contact sensor, magnetic clamping device vertical at angle, angular drilling heads
Complete machining	Heller MCH450	1,200 x 1,000 x 700	2,500	Casting (100%)	Pallet changer, contact sensor, magnetic clamping device, H/V-swivel head
Complete machining	B&W MCX1400	2,100 x 2,000 x 300	3,000	Casting (100%)	Pallet changer, contact sensor, magnetic clamping device vertical at cube, angular drilling heads
Superfinishing	B&W MCX1400	2,200 x 1,800 x 2,500	8,000	Casting (100%)	Pallet changer, contact sensor, climate chamber, angular milling heads
Superfinishing	B&W HYOP400	2,200 x 2,400 x 800	3,000	Casting (100%)	Pallet changer, contact sensor, magnetic clamping device, angular drilling heads
Complete machining	DMG DMC200 U	1,700 x 2,100 x 800	3,000	Casting (100%)	Pallet changer, contact sensor, angular drilling heads, magnetic clamping device, HV-head
Complete machining	matec 30HV	3,000 x 800 x 1,100	800	Aluminium (90%), casting (10%)	HV-head, angular heads, reversible clamping device, shuttle operation
Complete machining	STAMA MC540S	1,600 x 550 x 600	500	Aluminium (90%), casting (10%)	Swivel table (HV machining), reversible clamping device, shuttle operation
Complete machining	PowerSpeed 5L SHW	6,000 x 1,600 x 1,300		Steel and casting	Accuracy of fit IT6
Complete machining	UFZ 5L SHW	6,000 x 1,600 x 1,300		Steel and casting	Accuracy of fit IT6
Complete machining	JOBS BAZ LINX 12.2	4,000 x 2,500 x 1,200		Casting	± 0.02 mm, machining center with angular head
Complete machining	KOLB PFC 2500	4,500 x 2,500 x 850		Casting	± 0.025 mm, magnetic clamping device
Complete machining	HEC 1250	2,000 x 2,000 x 1,000		Casting	
Complete machining	Starrag Heckert Hec 500/Hec 500 HV	1,000 x 1,000 x 950	1,000		Flexible manufacturing system with 20 pallets in storage, some with quick change pallet system, horizontal, 4- and 5-side machining, 2 x 180 tools in storage
Surface grinder	Favretto MF 300 CNC	Table size 3,000 x 1,000, grinding width 3,000, grinding length 1,400	3,000		
3D Coordinate measuring machine	Mauser KMZG	4,000 x 3,000 x 2,300			± 0.002 mm
3D Coordinate measuring machine	ZEISS PSM-MT	4,200 x 1,000 x 2,400			± 0.002 mm

MANUFACTURING FACILITIES, WORKPIECE DIMENSIONS, AND DETAILS

Technology	Manufacturer	Max. dimensions (L x W x H mm)	Max. weight (kg)	Range of materials	Specifics and notes
Complete manufacturing					
Complete machining	Heller MC26	800 x 800 x 800	800	Aluminum (10%), steel (80%), casting (10%)	2-pallet operation
Complete machining	SW BA40	4,750 x 630 x 630	1,000	Aluminum (10%), steel (90%)	Swivel bridge (3,350 x 630 x 630 mm)
Complete machining	Deckel DMC 100	1,000 x 1,000 x 1,000			Rotary machine table, H/V-pallet machine, 5-side machining
Complete machining	Deckel DMC 160	1,600 x 1,000 x 1,250			Rotary machine table, H/V-pallet machine, 5-side machining
Complete machining	Deckel DMC 70 H	700 x 800 x 800			Rotary machine table, H-pallet machine, 4-side machining
Vertical turning	HESSAPP DVT450	to ø 480 x 340	40	Steel (20%), casting (80%)	Values including clamping devices
Vertical turning	HESSAPP VDM550	to ø 550 x 600	500	Steel (85%), casting (15%)	Values including clamping devices
Vertical turning	Pittler PV800/2-2	to ø 1,000 x 630	830	Steel (85%), casting (15%)	Shuttle operation
Turning from bare	EMCO HT 690	to ø 90 x 3,000		Steel, casting and aluminum	Machining center with powered tools
Turning from bare	TRAUB TNC 65	to ø 65 x 3,000		Steel, casting and aluminum	Machining center with powered tools
Turning	Monforts DNC5	to ø 420 x 600	180	Steel (20%), casting (80%)	Values including clamping devices
Turning	INDEX G400	to ø 200 x 300		Steel, casting and aluminum	4-axis lathe with powered tools and counter spindle, accuracy of fit IT7
Turning	OKUMA LU 400	to ø 250 x 1,000		Steel, casting and aluminum	4-axis lathe with powered tools and tailstock, accuracy of fit IT7
Circular grinding	WEMA Glauchau SU6R	to ø 600 x 600	650	Steel (20%), casting (80%)	Internal grinding depth 600 mm, grinding length outer edge 500 mm
Grinding	Studer S33	to ø 250		Steel, casting and aluminum	Universal grinder for 3-side machining, accuracy of fit IT4
Flat lapping	GRÄSSNER-STUT 4 R 120				
Laser cutting/Die cutting	Trumpf	3,000 x 1,500		Stainless steel to 8 mm and steel to 20 mm	
Water jet cutting	Ridder	3,000 x 3,000		Up to 90 mm thickness	
Bending	EHT	3,500			170 t
CNC pipe bending	Wafios	ø 4 – 35, L 3,000			

MANUFACTURING FACILITIES, WORKPIECE DIMENSIONS, AND DETAILS

Technology	Manufacturer	Max. dimensions (L x W x H mm)	Max. weight (kg)	Range of materials	Specifics and notes
Special parts manufacturing					
Complete machining	SW BA40	1,200 x 630	1,800	Steel (85%), casting (15%)	Rotary machine table
Surface grinding	ELB BD20	2,000 x 630 x 600	1,350	Steel (85%), casting (15%)	
Induction hardening	EFD HGL 1500	to ø 630 x 400	600	Steel (85%), casting (15%)	
Cam grinding	KEHREN Ri64	to ø 800 x 600	500	Steel (85%), casting (15%)	
Cam grinding	KEHREN Ri84	to ø 1,000 x 750	800	Steel (85%), casting (15%)	
Hobbing	Liebherr LC1000	to ø 1,000 x 1,000	2,000	Steel (60%), casting (40%)	to modul 12
Hobbing	Richardon R400	to ø 400 x 580	40	Steel (60%), casting (40%)	to modul 8, with pallet conveyor belt
Hobbing machine	Liebherr LC 200	to ø 200			to modul 7
Gear grinding	Reishauer RZ1000	to ø 1,000 x 700	300	Steel (60%), casting (40%)	to modul 12, tooth width to 200 mm
Plasma nitriding or nitro-carburization in the plasma	Platec	ø 900 x 1,900	1,200		
Functional surfaces					
Plasma coating equipment	Plasma spray equipment APS	to ø 450 x 2,000	1,600		Oxide ceramic spray coating to protect against wear and corrosion with max. thicknesses to 15 µm
Combined bronzing and manganese phosphating equipment	Sessler Galvanotechnik	3,000 x 540 x 630	350		
Powder coating equipment	Eisenmann	3,000 x 1,600 x 800	600		
Wet paint varnishing equipment	Widmer & Ernst	a) 3,000 x 1,600 x 800 b) 6,000 x 4,800 x 3,000	500 20 t		

The listed machines are only a sample of the varieties of machine tools available at manroland AG. Manufacturing at manroland is constantly evolving through the usage of new technologies and modern machines. It is therefore in your interest that we reserve the right to make changes to our machine park. Unless otherwise identified, the processing of all materials is conventional.

We are continuously developing our products and services and aligning them with our research results and practical experience. It is therefore in your interest that we reserve the right to make design and specification changes. Only the written Confirmation of Order is binding. The contents of this document, in particular brand names, logos, texts, illustrations and diagrams, are the property of manroland, unless otherwise identified, and are protected by law. Reproduction or utilization of this document as well as the communication of its contents to others without explicit written authorization by manroland is prohibited. A civil action will be brought against offenders. All rights are reserved in the event of patent, utility model, or design registration.